Attachment C to December 1, 2001 annual report of Nicotine Yield Rating Information submitted by Philip Morris Incorporated to the Massachusetts Department of Public Health

Computing the Multiplier Equation

1. Open a New Excel (version 97) Spreadsheet
2. List FTC Nicotine Data in Column A
3. List Massachusetts Nicotine Data in Column B
4. Highlight all Data and Column Titles (Column Description Titles not Column A, B, C, etc.)
5. Select the ChartWizard
6. ChartWizard Dialog Box Step 1 of 4 is displayed
7. Select Standard Types tab and select XY (Scatter) chart type
8. Press Next
9. ChartWizard Dialog Box Step 2 of 4 is displayed
10. Verify Range entry of data location, if not correct then enter cell locations of data
11. Press Next
12. ChartWizard Dialog Box Step 3 of 4 is displayed
13. Select Titles tab and enter Chart, X axis and Y axis titles
14. Press Next
15. ChartWizard Dialog Box Step 4 of 4 is displayed
16. Select Place chart as new sheet
17. Press Finish
18. Click on any Data Points on the Graph until some Points are Highlighted
19. Select Chart from the Menu
20. Select Add Trendline from the Pull-down Menu
21. Select the TYPE Tab
22. Highlight the Polynomial Chart
23. Verify Order: 2
24. Select the OPTIONS Tab
25. Set Forecast Forward to 0.5 Units
26. Set Forecast Backward to 0.4 Units
27. Select Display Equation on Chart
28. Select R-squared Value on Chart
29. Press OK

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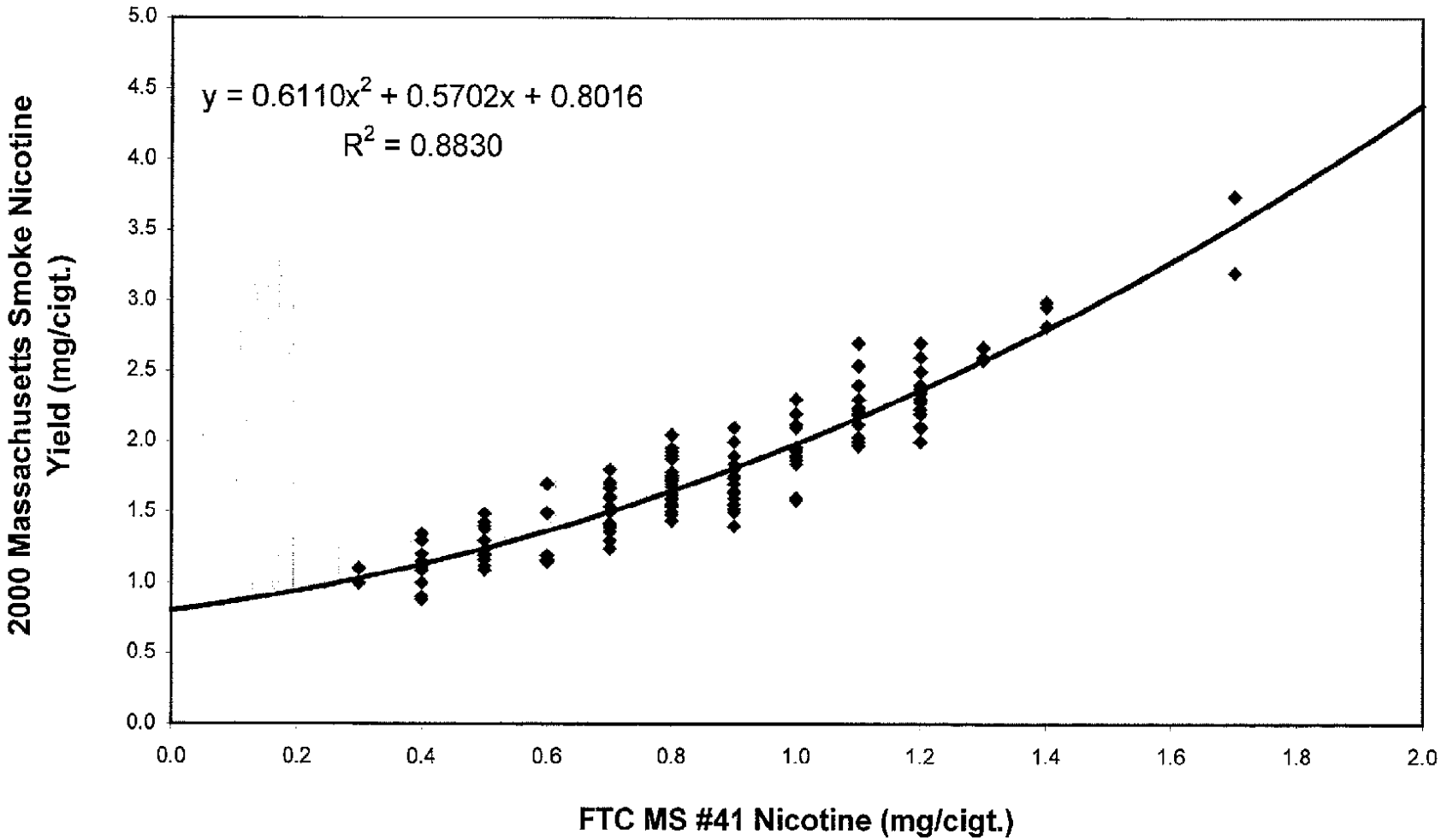
Source: https://www.industrydocuments.ucsf.edu/docs/mplk0001

Comparison of Massachusetts Smoke Nicotine Yields with FTC Smoke Nicotine Yields



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Source: https://www.industrydocuments.ucsf.edu/docs/mplk0001

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FTC & Massachusetts Nicotine Data

Philip Morris

Brand	Sub-Brand	FTC Market Sample #41 Nicotine (mg/cigt.)	2000 MA Smoke Nicotine Measured (mg/cigt.)
Marlboro	King F HP	1.1	2.2
Marlboro	King F SP	1.1	2.3
Marlboro	King F SP 25-pk	1.1	2.2
Marlboro	King F HP Menthol	1.1	2.0
Marlboro	King F SP Menthol	1.1	2.1
Marlboro	King F HP Mild Menthol	0.9*	1.7
Marlboro	King F HP Medium	0.9	1.7
Marlboro	King F SP Medium	0.8	1.8
Marlboro	King F HP Lt	0.8	1.7
Marlboro	King F SP Lt	0.8	1.6
Marlboro	King F SP Lt 25-pk	0.8	1.8
Marlboro	King F HP Lt Menthol	0.8	1.4
Marlboro	King F SP Lt Menthol	0.8	1.6
Marlboro	King F HP Ultra-Lt	0.5	1.2
Marlboro	King F HP Ultra-Lt Menthol	0.5*	1.1
Marlboro	100 F HP Red	1.1	2.2
Marlboro	100 F SP Red	1.2	2.3
Marlboro	100 F HP Menthol	1.1	2.0
Marlboro	100 F HP Medium	1.0	2.1
Marlboro	100 F SP Medium	1.0	2.1
Marlboro	100 F HP Lt	0.8	1.8
Marlboro	100 F SP Lt	0.8	1.9
Marlboro	100 F HP Lt Menthol	0.8	1.6
Marlboro	100 F SP Lt Menthol	0.7	1.7
Marlboro	100 F HP Ultra-Lt	0.5	1.4
Marlboro	100 F HP Ultra-Lt Menthol	0.5*	1.4
Basic	King NF SP	1.7	3.7
Basic	King F HP	1.0	2.0
Basic	King F SP	1.0	1.9
Basic	King F HP Menthol	1.0	1.9
Basic	King F SP FF Menthol	1.0	1.8
Basic	King F HP Lt	0.7	1.4
Basic	King F SP Lt	0.7	1.4
Basic	King F SP Lt Menthol	0.7	1.4
Basic	King F SP Ultra-Lt	0.5	1.1
Basic	100 F HP	1.0	1.9
Basic	100 F SP	1.0	1.9
Basic	100 F SP FF Menthol	1.0	1.9
Basic	100 F HP Lt	0.8	1.6
Basic	100 F SP Lt	0.8	1.6
Basic	100 F SP Lt Menthol	0.8	1.5
Basic	100 F SP Ultra-Lt	0.5	1.2
Basic	100 F HP Ultra-Lt Menthol	0.5*	1.2

*From Philip Morris internal testing.

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FTC & Massachusetts Nicotine Data

R. J. Reynolds

Brand	Sub-Brand	FTC Market Sample #41 Nicotine (mg/cigt.)	2000 MA Smoke Nicotine Measured (mg/cigt.)
Camel	King F Tin LT	0.9*	1.7
Camel	100 F HP FF	1.2*	2.5
Camel	100 F SP FF	1.2	2.6
Camel	King F HP FF	1.2	2.3
Camel	King F SP FF	1.2	2.4
Camel	King F HP FF Men	1.1	2.3
Camel	King F Tin FF Men	1.1*	2.2
Camel	King F Tin FF	1.1*	2.4
Camel	100 F SP LT	0.9	2.0
Camel	100 F HP LT	0.9	1.9
Camel	King F HP LT	0.8	1.7
Camel	King F SP LT	0.9	1.8
Camel	King F HP LT Men	0.8	1.5
Camel	King F Tin / Keg LT	0.8*	1.7
Camel	70 NF SP FF	1.7	3.2
Camel	King F Tin LT	0.9*	1.9
Camel	King F Tin LT	0.9*	1.7
Camel	100 F HP LT	0.9	1.8
Camel	King F HP LT	0.8	1.5
Camel	King F SP LT	0.9	1.5
Camel	King F HP LT	0.8*	1.5
Camel	King F Tin LT	0.8*	1.6
Camel	King F Tin LT	0.9*	1.7
Camel	100 F HP Ultra-LT	0.5	1.4
Camel	King F HP Ultra-LT	0.5	1.2
Camel	King F SP Ultra-LT	0.4	1.1
Camel	King F HP FF	1.2	2.2
Camel	King F HP LT	0.9	2.0
Camel	King F HP FF Men	1.2	2.1
Camel	King F HP LT Men	0.9	1.4
Camel	King F Tin FF	1.2*	2.4
Camel	King F HP LT	0.8	1.6
Camel	King F Tin LT	0.8*	1.7
Camel	King F HP FF	1.2	2.3
Doral	100 F HP FF	0.8	1.7
Doral	100 F SP FF	0.8	1.7
Doral	King F HP FF	0.8	1.6
Doral	King F SP FF	0.8	1.7
Doral	100 F SP FF Men	0.8	1.7
Doral	King F HP FF Men	0.8	1.6
Doral	King F SP FF Men	0.8	1.7
Doral	100 F HP LT	0.8	1.7
Doral	100 F SP LT	0.7	1.5

*From Reynolds internal testing.

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Source: https://www.industrydocuments.ucsf.edu/docs/mplk0001

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FTC & Massachusetts Nicotine Data

R. J. Reynolds

Brand	Sub-Brand	FTC Market Sample #41 Nicotine (mg/cigt.)	2000 MA Smoke Nicotine Measured (mg/cigt.)
Doral	King F HP LT	0.5	1.2
Doral	King F SP LT	0.5	1.2
Doral	100 F SP LT Men	0.7	1.4
Doral	King F SP LT Men	0.5	1.2
Doral	King NF SP FF	1.0	2.3
Doral	100 F HP Ultra-LT	0.4	1.1
Doral	100 F SP Ultra-LT	0.3	1.1
Doral	King F HP Ultra-LT	0.4*	0.9
Doral	King F SP Ultra-LT	0.3	1.0
Salem	100 F HP FF Men	1.2	2.3
Salem	100 F SP FF Men	1.3	2.6
Salem	King F HP FF Men	1.1	2.2
Salem	King F SP FF Men	1.2	2.0
Salem	100 F HP LT Men	1.0	1.6
Salem	100 F SP LT Men	0.7	1.7
Salem	King F HP LT Men	0.7	1.5
Salem	King F SP LT Men	0.8	1.5
Salem	100 F SP LT Men	0.6	1.7
Salem	100 F HP Slim-LT Men	0.8	1.7
Salem	100 F SP Ultra-LT Men	0.5	1.3
Salem	King F SP Ultra-LT Men	0.4	1.2
Winston	100 F SP FF	1.1	2.7
Winston	King F HP FF	1.0	2.2
Winston	King F HP FF	1.1*	2.2
Winston	King F SP FF	1.0	2.1
Winston	100 F HP LT	0.8	1.9
Winston	100 F SP LT	0.8	1.9
Winston	King F HP LT	0.7	1.7
Winston	King F HP LT	0.7*	1.5
Winston	King F SP LT	0.7	1.8
Winston	100 F HP FF	1.2	2.4
Winston	100 F SP FF	1.2	2.7
Winston	King F HP FF	1.1	2.2
Winston	King F SP FF	1.1	2.0
Winston	100 F SP LT	0.9	2.1
Winston	King F HP LT	0.7	1.6
Winston	King F SP LT	0.8	1.5
Winston	100 F HP Slim-LT	0.8	1.5
Winston	100 F HP Ultra-LT	0.5	1.4
Winston	100 F SP Ultra-LT	0.4	1.3
Winston	King F HP Ultra-LT	0.5	1.3
Winston	King F SP Ultra-LT	0.5	1.2

*From Reynolds internal testing.

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FTC & Massachusetts Nicotine Data

Brown & Williamson

Brand	Sub-Brand	FTC Market Sample #41 Nicotine (mg/cigt.)	2000 MA Smoke Nicotine Measured (mg/cigt.)
GPC	100 F SP FF	0.9	1.5
GPC	100 F HP FF	0.9	1.6
GPC	King F SP FF	0.9	1.6
GPC	King F HP FF	0.9	1.6
GPC	100 F SP FF Menthol	0.9	1.6
GPC	King F SP FF Menthol	1.0	1.6
GPC	100 F SP Lt	0.7	1.3
GPC	100 F HP Lt	0.7	1.2
GPC	King F SP Lt	0.6	1.2
GPC	King F HP Lt	0.6	1.2
GPC	100 F SP Lt Menthol	0.7	1.4
GPC	King F SP Lt Menthol	0.7	1.3
GPC	100 F HP Medium	0.8*	1.5
GPC	King F HP Medium	0.6*	1.2
GPC	King NF SP	1.2	2.1
GPC	100 F SP Ultra-Lt	0.4	1.1
GPC	100 F HP Ultra-Lt	0.4*	1.2
GPC	King F SP Ultra-Lt	0.4	0.9
GPC	King F HP Ultra-Lt	0.4*	1.0
GPC	100 F SP Ultra-Lt Menthol	0.4	1.1
GPC	King F SP Ultra-Lt Menthol	0.4	1.0
Kool	King F SP Menthol	1.2	2.4
Kool	King F HP Menthol	1.2	2.2
Kool	100 F SP Lt Menthol	0.7	1.7
Kool	King F SP Lt Menthol	0.6	1.5
Kool	100 F SP Mild Menthol	0.8	1.7
Kool	100 F HP Mild Menthol	0.9	1.8
Kool	King F SP Mild Menthol	0.9	1.8
Kool	King F HP Mild Menthol	0.9	2.0
Kool	100 F HP Natural Menthol	1.2*	2.4
Kool	King F HP Natural Menthol	1.2*	2.4
Kool	100 F HP Lt Natural Menthol	0.7*	1.5
Kool	King F HP Lt Natural Menthol	0.7*	1.4
Kool	Reg NF SP Menthol	1.3	2.7
Kool	100 F SP Super Menthol Long	1.2	2.3
Kool	100 F HP Super Menthol Long	1.2	2.3
Kool	100 F SP Ultra-Lt Menthol	0.5	1.5
Kool	King F SP Ultra-Lt Menthol	0.4	1.3

*From Brown Williamson internal testing.

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FTC & Massachusetts Nicotine Data

Lorillard

Brand	Sub-Brand	FTC Market Sample #41 Nicotine (mg/cigt.)	2000 MA Smoke Nicotine Measured (mg/cigt.)
Newport	King F HP Menthol	1.2	2.2
Newport	King F SP Menthol	1.2	2.5
Newport	100 F HP Menthol	1.4	2.8
Newport	100 F SP Menthol	1.4	3.0
Newport	King F SP Menthol 25-pk	1.3	2.6
Newport	100 F SP Menthol 25-pk	1.4	3.0
Newport Lights	King F HP Lt Menthol	0.7	1.5
Newport Lights	King F SP Lt Menthol	0.7	1.6
Newport Lights	100 F HP Lt Menthol	0.8	1.9
Newport Lights	100 F SP Lt Menthol	0.8	2.1
Newport Slim	120 F HP Slim Menthol	1.1	2.5
Newport Slim	100 F HP Slim-Lt Menthol	0.8	1.7
Newport Slim	120 F HP Slim-Lt Menthol	0.8	2.0
Newport Stripes	100 F HP Lt	0.9	1.7
Newport Stripes	100 F HP Lt Menthol	0.8	1.7

Source: https://www.industrydocuments.ucsf.edu/docs/mplk0001

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An Example Using the Multiplier Equation to Predict Non-tested Brands

	A	B	C	D
1			$y = 0.6110x^2 + 0.5702x + 0.8016$ $R^2 = 0.8830$	
2	**Brand**	**FTC MS #41 Nicotine (mg/cigt.)**	**Calculated Nicotine (mg/cigt.) Value Using the Multiplier Equation**	
3	Alpine 100 F SP Lt Menthol	0.8	1.6	
4	Alpine 100 F SP Menthol	1.1	2.2	
5	Alpine King F HP Lt Menthol	0.7	1.5	
6	Alpine King F HP Menthol	1.1	2.2	
7	Alpine King F SP Lt Menthol	0.7	1.5	
8	Alpine King F SP Menthol	1.0	2.0	
9	Benson & Hedges 100 F HP Lt	0.8	1.6	
10	Benson & Hedges 100 F HP Menthol	1.1	2.2	
11	Benson & Hedges 100 F HP Ultra-Lt Menthol Dlx	0.5	1.2	
12	Benson & Hedges 100 F HP	1.1	2.2	
13	Benson & Hedges 100 F SP Lt	0.8	1.6	
14	Benson & Hedges 100 F SP	1.1	2.2	
15	Benson & Hedges King F HP	1.1	2.2	
16	Benson & Hedges King F SP M-Filter	0.9	1.8	
17	Best Buy 100 F HP FF Generic	1.0	2.0	

1. Enter the list of Brands in Column A Starting in Cell A2 with the Column Title
2. Enter the list of FTC Nicotine Results in Column B Starting in Cell B2 with the Column Title
3. Enter the Multiplier Equation in Cell C1
4. Enter the Column Title in Cell C2
5. Enter the Computation Formula in Cell C3 (Example: =ROUND(((0.6110*(B3^2))+(0.5702*B3)+0.8016),1)
   a. This Formula Replaces the *X* in the Multiplier Equation with the Data in Cell B2 and Computes the Results Based on the Equation
   b. Results are Rounded to 1 Decimal Place
6. Copy the Formula from Cell C3 Down Column C for the Remaining Brands

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